UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,400	07/17/2003	Hamid Ould-Brahim	38898-0047	4642

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RIDOUT & MAYBEE	EXAMINER	
SUITE 2400	SMITH, MARCUS	
ONE QUEEN STREET EAST		
TORONTO, ON M5C3B1	ART UNIT	PAPER NUMBER
CANADA	2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

5K

	Application No.	Applicant(s)
	10/623,400	OULD-BRAHIM, HAMID
Office Action Summary	Examiner	Art Unit	
	Marcus R. Smith	2616	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 July 2003</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-18</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-18</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>17 July 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
       1.☐ Certified copies of the priority documents have been received.
       2.☐ Certified copies of the priority documents have been received in Application No. _____.
       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1, 3-5, 8, 10-12, and 17-18 are rejected under 35 U.S.C. 102(e) as being

anticipated by Yip (US 6,912,592).

with regards to claims 1 and 8, Yip teaches (figure 2a):

A network comprising:

a set of elements interconnected by services (column 6, lines 19-25);

at least one first subset (super VLAN, 130) of said elements defining a private

network (column 3, lines 40-53);

at least one second subset of elements (router, 235) different from said first

subset defining a provider network (200) wherein at least two subgroups of said first

subset of elements may be connected via said provider network (column 6, lines 3-23);

a services hierarchy wherein virtual private networks are defined on said second

subset of elements (column 3, lines 30-39: The examiner views each VLAN as a virtual

private network.);

said services hierarchy comprising a father virtual private network (super VLAN, 250) and at least one affiliated son virtual private network (sub VLAN, 255) (column 6, lines 23-30);

each son virtual private network having at most one affiliated father virtual private network (column 6, lines 49-54);

each father virtual private network responsible for associating services and responsible for associating connections for said at least one affiliated son virtual private network (column 5, 13-25: the examiner views the associates services as the super VLAN (father) being to able to forward (service) packets from the sub VLAN (son).);

and said provider network having a means for associating elements comprising said father virtual private network (column 6, lines 40-55: The MAN service provider can uses VMAN aggregation to associated elements to the super VLAN).

with regards to claims 3 and 10, Yip teaches (figure 2b):

wherein said means for associating elements comprising said father virtual private network includes a virtual private network descriptor (FDM, 275) for each father and each son virtual private network (column 5, lines 55-67: the examiner views the forwarding database as a virtual private network descriptor for each VPN to associate those elements together.).

with regards to claims 4 and 11, Yip teaches (figure 2b):

wherein said virtual private network descriptor contains an association between a n address of each element of said father virtual private network and an (MAC) address

of an element of said provider network for each case wherein said networks have direct

port connections (column 6, lines 60-67).

with regards to claims 5 and 12, Yip teaches (figure 2b):

A network as claimed in claim 4 wherein said virtual private network descriptor

for each father and each son virtual private network are grouped into a set of virtual

private network descriptors arranged in a hierarchy, said hierarchy corresponding to a

hierarchy defined by said father and said son virtual private networks' affiliations (figure

2b, the database 275 is VLAN group in a hierarchy form. column 6, lines 49-67: the

examiners hierarchy in the descriptors as show the database (275) shows the

information for the super VLAN for first and then sub VLANs information.)

with regards to claim 17, Yip teaches (figure 2a):

An element of a provider network (100, provider domain) according to the

network of claim 1 (column 5, lines 33-45).

with regards to claim 18, Yip teaches (figure 2a):

An element of a private network (Building C, 235, customer domain) according to

the network of claim 1 (column 6, lines 19-30).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 2, 6-7, 9, and 13-15 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yip in view of Boden et al. (US 7,099,319).

With regard to claims 2 and 9:

Yip discloses all of the subject matter as described above except for wherein

each said at least one affiliated son virtual private network may recursively act as a

father virtual private network for a further virtual private network affiliated as a

respective son.

Boden et al. teaches a local VPN (network A) connected to remote VPNs

(network B and C) (see figure 4). His background art, teaches how a single VPN (father)

can support other independent VPN as many remote or branch offices of system in

order to reduce the network cost of a business (column 1, lines 11-23).

In Yip, the sub-VLAN can be customer based VLAN, which can be views a local

business. Well in today's world most businesses need or have remote offices. Therefore

it would have been obvious to one having ordinary skill in the art at the time invention

was made to have a local VPN (sub-VLAN of Yip, son of super VLAN) be considered a

father to other remote VPN as taught by Boden et al. in the system of Yip in order to

reduce network cost.

With regard to claims 6 and 13:

Yip discloses all of the subject matter as described above except for wherein said

means for associating elements further comprises a globally unique identifier associated

with said father or said son virtual private network. But it dose teaches that the system

uses IP routing rules transmitted packets (column 6, lines 30-35) and each customer

have a private IP subnet (address).

Boden et al. teaches a local VPN (network A) connected to remote VPNs

(network B and C) (see figure 4) that have global public IP addresses in order to

uniquely route the packets across the network to overcome overlapping IP addresses

(column 5, lines 10-30).

Therefore it would have been obvious to one having ordinary skill in the art at the

time invention was made to global public IP addresses as taught by Boden et al. in the

system of Yip in order to uniquely route the packets across the network to overcome

overlapping IP addresses.

with regard to claims 7 and 14:

Yip discloses all of the subject matter as described above except for wherein said

means for associating elements further comprises a set associating for each said

globally unique identifier a corresponding virtual private network descriptor and an

indicator of a level within said hierarchy defined by said father and said son virtual

private networks' affiliations.

Boden et al. teaches a local VPN (network A) connected to remote VPNs

(network B and C) (see figure 4). It also teaches VPN NAT address bind table includes

a local/remote indicator field and other address fields. The local/remote field can

indication what hierarchy level the VPN is on by stating if it is local (father) or remote

(son) in order for a system to have multiple remote sites connect to local gateway

without conflicting with each other remote sites (column 3, lines 1-5).

Therefore it would have been obvious to one having ordinary skill in the art at the time invention was made to local/remote indication field as taught by Boden et al. in the system of Yip in order for a system to have multiple remote sites connect to local gateway without conflicting with each other remote sites.

with regards to claim 15, Yip

A method as claimed in claim 14 wherein said set is established by a process of auto-discovery (column 6, lines 55-67: the examiner views a switch using MAC address learning rules as auto discovery.).

5.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yip and Boden et al. as applied to claim 15 above, and further in view of Sistanizadeh et al. (US 6,963,575).

Yip and Boden et al. discloses all of the subject matter as described above except for wherein said process of auto-discovery uses Border Gateway Protocol.

Sistanizadeh et al. teaches a wide area network with routing protocols like Border Gateway Protocol (BGP) for learning bridge operations in mini-autonomous system (abstract) in order to accommodate future growth, and have the system be flexible and scalable (column 2, lines 1-10).

Therefore it would have been obvious to one having ordinary skill in the art at the time invention was made to use Border Gateway Protocol as taught by Sistanizadeh et al. in the system of Yip and Boden et al. in order to accommodate future growth, and have the system be flexible and scalable (column 2, lines 1-10).
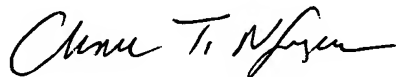
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus R. Smith whose telephone number is 571 270 1096. The examiner can normally be reached on Mon-Fri. 7:30 am - 5:00 pm every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MRS 3/29/07

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